# THE AMERICAN REVIEW OF TUBERCULOSIS

OFFICIAL JOURNAL OF THE AMERICAN TRUDEAU SOCIETY

## ABSTRACTS

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VOLUME XLIX

JANUARY-JUNE, 1944

PUBLISHED MONTHLY

AT MOUNT ROYAL AND GUILFORD AVENUES, BALTIMORE 2, MD.
BY THE NATIONAL TUBERCULOSIS ASSOCIATION

THE

# AMERICAN REVIEW OF TUBERCULOSIS ABSTRACTS

VOLUME XLIX FEBRUARY, 1944 ABST. No. 1

**Report of Army Induction Chest Roentgenograms.**—From May, 1941 to March 31, 1942 chest roentgenograms were made on 22,054 men at the U. S. Army Induction Station No. 6 in Baltimore, Maryland. Thirteen per cent showed evidence of a tuberculous infection, the primary type being present in 2,551 and the reinfection type in 245. Of this group, 294 (1.3 per cent) were rejected for pulmonary tuberculosis. The primary tuberculous lesions were classified as healed miliary, excessive calcification and stable or unstable (as evidenced by stippling, soft tissue proliferation and increase in size or number of lymph nodes and parenchymal lesions). Where instability is the only cause for rejection, reëxamination is advised after an interval of six months. If there is no evidence of progression or regression the selectee is accepted. The reinfection tuberculous lesions consisted of minimal, moderately advanced and far advanced cases. There were 17 cases (5.7 per cent) with cavitation. All cases rejected for tuberculosis were reported to the Maryland State Board of Health for follow-up care. Approximately one-half of the cases were considered stable and reclassified from Class IV-F to Class I-A. —*Roentgenological Report of Chest Examinations, H. E. Ashbury, J. G. Whildin & F. T. Rogers, Am. J. Roentgenol., September, 1942, 48: 347.*—(*W. H. M.*)

**Tuberculosis Control Accreditation.**—The Committee on Tuberculosis of the Minnesota State Medical Association is of the opinion that state medical associations generally should play a leading rôle in tuberculosis control, but finds through a survey that many have done little by way of organization or control, and in less than six states was there an adequate program. The Minnesota Committee has surveyed the field with reference to the various methods of approach in tuberculosis control. Those who advocate that the examination of children is adequate should remember that children prior to twelve years rarely have contagious pulmonary tuberculosis. The tuberculin test for children of all ages has been found of great value for two reasons: (*1*) a positive reaction indicates contact with a case of contagious tuberculosis, a search for which among his adult associates is always profitable; (*2*) every reactor should have annual examinations when adulthood is reached. In the high school group the reinfection type of tuberculosis becomes more prevalent and all high school reactors should have annual examinations for clinical pulmonary tuberculosis. The examination of so-called contacts of patients with contagious tuberculosis is not in itself adequate, since many patients become terminal cases of tuberculosis before a diagnosis is made, and the harm in dissemination has already been done. Also, many persons with contagious tuberculosis die from other major conditions and the tuberculosis is never recognized. The Committee came to the conclusion that the only way to find all cases of tuberculosis is to examine every individual in the entire community or political division. The Committee decided to select as an experimental unit a county where there was every reason to hope that an all-out campaign would be instituted and completed by the local physi-

cians and their allies. Meeker County was selected for several reasons and the coöperation of the county medical society readily obtained in making their county the laboratory centre for the state. After careful discussion it was decided that the program should consist of the following procedures: tuberculin testing (Mantoux method) of the entire population of 19,000, chest roentgenograms (paper film) of all reactors, careful examinations of all whose films revealed suspicious shadows, and arrangements for adequate treatment and isolation of all cases of clinical pulmonary tuberculosis. The giving and interpretation of skin tests and the processing and gross interpretation of the X-ray films were a contribution by the county physicians to the program. During the first year of the program 5,412 persons had been tested with tuberculin of whom 22 per cent reacted. Clinical pulmonary tuberculosis was diagnosed in 10 persons previously unsuspected. In general, work done by the local physicians is more satisfactory since the program will be perpetuated when the demonstration period is over. In Meeker County the intent of the campaign is to sweep clean, so that for the moment no patients with contagious tuberculosis will be permitted to spread the disease. Tuberculin nonreactors will be retested periodically and reactors will be reexamined. The Tuberculosis Committee decided that some recognition should be given counties where much tuberculosis work had been done, with a satisfactory result, in order to call attention to fine county accomplishments and to stimulate other counties to intensify their control program. This idea was borrowed from those organizations which had so well coöperated and had so effectively controlled tuberculosis in cattle over the entire United States since their program was begun in 1922. The Committee further considered standards by which counties might qualify for accreditation. The first standard to be determined was a tuberculosis mortality rate of 10 or less per 100,000. However since many persons with contagious tuberculosis die with other causes of death certified, the opinion was that the incidence of the first infection type of tuberculosis is the only good available index. Therefore, as a second standard, it was decided that a county might qualify for accreditation if at least 80 per cent of all senior high school students were tested and not more than 15 per cent reacted, provided the average mortality rate for the past five years did not exceed 10 per 100,000. Within two weeks of this decision Lincoln County became the first to qualify for accreditation, followed by Olmsted, Murray and Stevens Counties. A certificate form was prepared showing that the accreditation was granted by the state medical association, the state department of health; it was also signed by the Governor of the state. Accreditation ceremonies are held for each of the counties which qualify. Excellent coöperation is obtained from the high school students throughout the county. Since many older persons doomed to die with tuberculosis will tend to keep the mortality rate high in some of the counties it would seem more fair if the mortality standard were discarded and tuberculosis infection standards used entirely. The Committee is therefore considering a standard based on the incidence of infection of children in the first grade, and another on the incidence of infection among high school students. This scheme of accreditation of counties, with reference to tuberculosis in man, has done more to stimulate interest and action than any other movement in the entire tuberculosis history of the state.—*County Accreditation Plan for Tuberculosis Control, J. A. Myers, J. A. M. A., March 20, 1943, 121: 921.*—(*G. L. L.*)

**Pulmonary Cavities.**—Three possible explanations are offered for the persistence of tuberculous cavities: (*1*) continued ulceration of the cavity wall; (*2*) pull of the chest wall; and (*3*) inflationary effect of the bronchial air stream. The first possibility is a potent factor in the original causation of the abscess. The second factor plays no part in persistence of a cavity at the early stages. The negative intrapleural pressure does play a part in more

advanced stages of the disease. It is the third factor which the author considers the most important in the persistence of cavity. The inflationary effect of the bronchial air stream can be produced by (*a*) increasing the endobronchial pressure by coughing or straining; (*b*) by trapping the air in the cavity by some valvular effect in the bronchus. The latter is probably the most important factor and is considered in some detail. In summary, the author concludes that pulmonary cavities close primarily as a result of the inherent concentric retractility of the lung, the negative intrapleural pressure (chest wall pull) being eliminated by the occurrence of compensatory emphysema in the lung adjacent to the diseased area. Lung abscess cavities close as a result of the above only in the presence of free drainage. Lung abscesses and tuberculous cavities persist as a result of inefficient drainage; the former by the retention of sloughs and infected material, the latter by the trapping of air in the cavity resulting from a partial bronchostenosis chiefly operative during expiration. The majority of tuberculous cavities are tension cavities from their inception and remain so until the later stage of the disease. During the later stage of the disease tuberculous cavities persist because of the pull of the chest wall, for at this stage free bronchial drainage is usually present. Bronchial occlusion is essential for inducing closure of tuberculous cavities. All methods of treatment, excluding chemotherapy, from bed-rest to thoracoplasty, are based on the same basic principles—namely, limitation of the inspiratory tug on and relaxation of the cavity and its draining bronchi with the ultimate production of an organic bronchostenosis.—*Pulmonary Cavities: Their Persistence and Closure, C. P. Thomas, Brit. J. Tuberc., January, 1942, 36: 4.*—(*E. H. R.*)

**Aspiratory Metastasis.**—The radiographic features of aspiratory metastasis were studied in 240 patients. The term, aspiratory metastasis, refers to a lesion localized at a certain distance from another which is to be regarded as the source of the spreading focus. The two lesions are either contralateral or situated in separate parts of the same lung. Close contiguity would not permit differentiation between lymphatic and brochial propagation. It has to be ascertained that the quality of the focus supposed to have caused the metastasis is such as to admit of this procedure. Third, the aspiratory metastasis must be distinguished from lesions of haematogenous origin, a difficult matter and, to some extent, speculative. In a review of the 240 cases, it was noted that aspiration occurred more often from the right upper lung to the left middle and lower parts than in the opposite direction. At least 42 per cent of right upper zone cavities and only 24 per cent of the left upper zone cavities succeeded in producing a contralateral spread. This occurrence was first demonstrated years ago by Fleischner who ascribed it to the peculiar anatomy of the right upper lobe bronchus. As regards prognosis, it was noted that, as a rule, spontaneous retrogression occurs in the metastatic focus. In only 3 of 43 instances observed for an adequate period was collapse treatment instituted. The practical conclusion reached by the author is that, inasmuch as metastasis occurs more often from the right to the left lungs, active treatment should be practiced particularly early in right-sided disease. Furthermore, inasmuch as aspiratory metastasis tends to retrogress, the aspiratory lesion need not be regarded as contraindicating collapse treatment of the chiefly affected contralateral side.—*The Aspiratory Metastasis, E. Fraenkel, Tubercle, October, 1942, 23: 227.*—(*E. H. R.*)

**Typhobacillosis.**—Typhobacillosis, as described by Landouzy, is characterized by three phases: (*1*) a typhoid phase; (*2*) a remission of variable duration; (*3*) a period of pulmonary or extrapulmonary localization of the disease. It is now considered a tuberculous infection with definite clinical picture; however, its pathogenesis and pathological anatomy cannot be differentiated from those of miliary tuberculosis. The case history of a twenty-four year old man is given who after

several months of intermittent fever developed miliary tuberculosis. Examination of the gastric lavage revealed tubercle bacilli. A blood culture on Loewenstein's medium was negative, however. The autopsy showed a generalized miliary tuberculosis.—*Évolution tuberculeuse à forme typhobacillaire, R. Desmeules & P. Richard, Laval méd., May, 1943, 8: 358.*—(*G. C. L.*)

**Lung Abscess and Tuberculosis.**—The case history of a fifty year old male is given who on May 30, 1942 suddenly became sick with severe pains in the epigastric region and in the right chest. A few days later he started to cough and to complain of a bad taste. On June 8, clinical and radiological examination revealed a lung abscess on the right. A gastric lavage was positive for tubercle bacilli. Another X-ray examination twenty days later showed disappearance of the previously seen annular shadow. On July 6 the patient was bronchoscoped and the secretion from the middle lobe bronchus was examined bacteriologically: pneumococci and tubercle bacilli were found. In August the radiological examination showed complete clearing. No tubercle bacilli were seen in the gastric lavage. The patient had had no signs of active tuberculosis before the onset of the suppurative process, and there were none after the abscess had disappeared. It is believed that encapsulated tubercle bacilli had been freed by the abscess formation.—*Extériorisation d'une tuberculose au cours d'un syndrome de suppuration broncho-pulmonaire, L. Rousseau, Laval méd., May, 1943, 8: 364.*—(*G. C. L.*)

**Lymphatic Leukaemia and Tuberculosis.**—The association of active pulmonary tuberculosis with lymphatic leukaemia is quite uncommon, only a few (12) such cases having been reported. To this list the authors add 3 more cases with this combination of diseases. All were elderly males seventy-eight, seventy-six and seventy-four years of age, respectively. The first 2 came to autopsy and both showed terminal pulmonary tuberculosis. The third case was still living at time of writing and peristently showed tubercle bacilli in his sputum. All cases had enlarged spleens and the first and last cases had palpable cervical, axillary and inguinal nodes. In the 2 fatal cases the white blood counts were high, 88,000 with 99 per cent small lymphocytes in case I and 128,000 with 91 per cent small lymphocytes in case II. In the third patient the white count ranged from 26,000 to 54,000 with lymphocytes varying from 70 to 87 per cent. The amount of haemoglobin present is only reported in case I, ranging from 9.9 to 10.6 grams. Sections of the various organs showed infiltration of both tubercle and leukaemia often in close proximity and yet apparently essentially independent. Whether leukaemia can activate a latent or apparently healed tuberculous focus remains to be established. The fact that many of the proved cases of associated lymphatic leukaemia and tuberculosis reported have terminated in generalized tuberculosis is suggestive.—*Lymphatic Leukemia and Tuberculosis, J. E. Farber & H. Bylebyl, Am. J. Clin. Path., May, 1942, 12: 253.*—(*J. S. W.*)

**Acoustic Neuritis in Tuberculosis.**—Partial deafness is quite common in tuberculous patients, even if those with middle ear disease are excluded. A complete and careful pathological study was made in a patient who died of tuberculosis at the age of thirty-three, and who had suffered from progressive deafness for the last two years of his life. The patient's pulmonary history was of three years' duration. Functional otological examinations during the patient's life revealed inner ear deafness, worse on the right. At autopsy, the trunk of the acoustic nerve showed severe degenerative changes and increase in the connective tissue. The changes involved both the cochlear and the vestibular divisions, and was more severe on the right. The ganglia were intact, and there was no evidence of disease of the middle ear or mastoid. No disease other than tuberculosis was found, and it is concluded that this is a case of toxic neuritis due to the severe and fatal pulmonary tuberculosis. This disease would be diagnosed

more commonly if every patient with pulmonary tuberculosis were made the subject of a detailed otological study.—*Über die Akustikusneuritis bei Lungentuberkulose, E. Schlittler, Schweiz. med. Wchnschr., April 10, 1943, 73: 464.*—(*H. M.*)

**Sarcoid and Tuberculosis.**—A case is reported of so-called multiple benign cutaneous sarcoid (Boeck's sarcoid) in a fifteen year old mentally deficient white boy. There was a raised, yellowish, smooth, firm lesion on his left temple, about the size of a silver half-dollar, not painful and not itching. Many other similar but smaller lesions were scattered on his forehead, neck and back, some raised and some flat and slightly scaly. The lesions on the face were first noted five years previously. The eruption suggested Boeck's sarcoid and the histological picture was consistent with this diagnosis. No tubercle bacilli were found in the sections and a guinea pig, inoculated with a part of the tissue, showed no tuberculosis when killed nearly four months later. Unfortunately no tuberculin test was done on the patient at this time. Seven years previously he gave a negative tuberculin skin test. A roentgenogram of the bones was normal. A roentgenogram of the lungs, however, showed extensive miliary mottled infiltrations involving the upper two-thirds of both lungs, most marked near the roots, interpreted as miliary tuberculosis. The roentgenogram was later shown to internists and radiologists, and the consensus was that the picture was not tuberculosis, but typical sarcoidosis of the lungs. The histological sections of the skin were submitted to various dermatologists who, for the most part, considered the lesion to be sarcoid. For nearly seven months the patient led the usual life of a mentally deficient person. He had no complaints, no cough, no fever and no sputum. No internal or external medication was administered, as the condition was considered at this time to be sarcoid. At this point the patient began to feel ill. His temperature rose to 103.6°F.; his pulse rate was 126 and his respiratory rate 34. It was then noticed that all the cutaneous lesions were practically gone, the raised ones having become smooth, hyperpigmented, slightly wrinkled areas. Two weeks later the patient suddenly died. A few days before this he had had diarrhoea, and two days before death a dry hacking cough had developed. The autopsy report showed the primary lesion to be miliary tuberculosis, and the secondary or terminal lesion was dilatation of the heart. Microscopical sections of the lungs and spleen were characteristic of miliary tuberculosis. No giant cells were found, however. Typical acid-fast organisms (tubercle bacilli) were found on staining the slides with carbol fuchsin. While a clinical diagnosis of sarcoid of the skin is possible, especially after a certain period of observation, the present case demonstrates that a clinical diagnosis of sarcoidosis of the lungs from the roentgenogram alone is most always impossible. The author believes that this case is further evidence that sarcoid and sarcoidosis are attenuated forms of tuberculosis.—*Sarcoid and Tuberculosis, Report of a Case with Autopsy, F. Ronchese, Arch. Dermat. & Syph., December, 1942, 46: 860.*—(*J. S. W.*)

**Sarcoidosis.**—The basic pathologic lesion of sarcoidosis, whether it is localized in the skin, the lymph nodes, the spleen, the lungs, the bone marrow or the salivary or lacrimal glands, is the so-called "hard" tubercle, a circumscribed collection of epithelioid cells with a sparse admixture of Langhans type giant cells and a striking scarcity or even absence of lymphocytic tissue response. Central necrosis and caseation are almost never found. The whole disease process consists of a more or less wide-spread infiltration of all the structures comprising the reticuloendothelial system. The course of the disease is usually benign and rarely leads to death. The cause of the disease is still uncertain but there is a mass of circumstantial evidence which tends to incriminate the tubercle bacillus as a factor in a majority of cases, despite the fact that only a very few react to tuberculin. In the present paper 15 cases of sarcoid disease are

reported with clinical observation extending over periods of from one to seven years. Three of the patients were white and 12 Negroes. There were 2 men and 13 women in the group. The age of onset of lesions varied from fifteen to forty-nine with half of the patients having their initial attack before the age of thirty. The diagnosis in all instances was confirmed by biopsy (cutaneous). Twelve of the patients showed evidence of pulmonary involvement, chiefly changes due to enlarged mediastinal lymph nodes, increased pulmonary markings and in 2 instances diffuse marbling of the pulmonary fields. In one of the patients showing the last mentioned changes fibroulcerative pulmonary tuberculosis developed, which ended fatally within a year. The massive hilar lymph nodes in 5 cases at first suggested Hodgkin's disease but when no response occurred to roentgen therapy further study established the presence of sarcoidosis. Twelve of the patients had roentgen examinations of the small bones of the hands and feet, and in none could specific rarefactions be found. This is in contrast to the situation in Europe where such changes are reported to be common. In all but one patient, a Negro, the skin was involved. The cutaneous lesions occurring in the Negro patients ranged from a superficial erythematous scaling to nodular ulcerative lesions resembling erythema induratum. A single patient had cherry-sized to walnut-sized subcutaneous nodules scattered over the back, chest and arms. The lymph nodes were involved as frequently as the skin and the lungs, spleen and liver somewhat less frequently. Involvement in all cases was demonstrated in several organs. Tuberculin tests showed only 7 patients to be anergic to 10 mg. of tuberculin; 8 reacted to 1 mg. or less of tuberculin. Three of the white and 4 of the Negro patients were in the anergic group. Five patients were given tuberculin tests during periods of quiescence as well as during periods of activity. One reacted the same in both periods, and 2 did not react during clinical activity, but did react during remission. Anticutins could not be demonstrated in the serums of 4 anergic patients so examined. Three of the patients on whom determinations of serum protein were made showed a decided increase in the globulin fraction. The differential blood examination revealed a monocyte count of from 8 to 18 per cent in over half the cases during active phases of the disease. Three patients died, one of pulmonary tuberculosis, which developed within a year of the onset of the sarcoid lesions but was preceded by a disappearance of all the cutaneous lesions. Another patient died two years after disappearance of all the cutaneous lesions, the autopsy showing widespread amyloidosis. The third patient died within nine days of admission to the hospital of pulmonary infarction due to pressure from tremendously enlarged mediastinal lymph nodes. Five patients (2 white and 3 Negro) underwent spontaneous recovery. The condition of the remaining 7 patients was relatively unchanged; there were slight exacerbations and remissions. Treatment with a wide variety of agents was unproductive of noteworthy results (illustrated).—*Sarcoidosis, C. C. Thomas, Arch. Dermat. & Syph., January, 1943, 47: 58.*—(*J. S. W.*)

**Tuberculosis in Children.**—One hundred consecutive cases of tuberculosis in children were analyzed. Fifty were found to have a primary complex in the lung and of these only 2 failed to reveal the pulmonary component roentgenographically. Thirty-five (70 per cent) of these 50 children with a primary complex had symptoms, such as cough, fever, malaise, lassitude, weight loss and gastrointestinal upsets, erythema nodosum, phlyctenular conjunctivitis. It was presumed that such children have either been exposed to a virulent dose of tubercle bacilli or have an increased susceptibility. These children need careful supervision and treatment in an institution. Some of the sequelae of tuberculosis in children are described as bronchogenic spread, bronchial obstruction or stenosis, emphysema, atelectasis, peritonitis, pleural effusion and cavitation.—*Tuberculosis in Children, J. C. Roberts, Lancet, July 3, 1943, 2: 2.*—(*J. B.*)

**Nodular Tuberculosis.**—A case of nodular tuberculosis of the liver and spleen is reported, with necropsy findings. The liver and spleen were found riddled with white, firm nodules, suggesting metastatic cancer nodules, especially as the subject was seventy-five years old. Section of one of the nodules, however, revealed caseation necrosis and tubercle bacilli were stained for and found. The clinical diagnosis of this condition is extraordinarily difficult. Splenic tuberculosis may be suspected in cases presenting unexplained splenomegaly. From the apparent age and size of the splenic nodules the authors believe that the splenic infection in this case was "primary," not that the spleen is the portal of entry of the organism, but that the disease process may become localized in the spleen and not only bring about various lesions, but act as a focus for dissemination of the bacilli, while the original focus may be entirely healed.—*Nodular Tuberculosis of the Liver and Spleen: Case Report, J. E. Welker & J. H. Hill, Am. J. Clin. Path., February, 1942, 12: 116.*—*(J. S. W.)*

**Tuberculosis of the Tonsils.**—Disagreement exists as to the mode by which the tubercle bacillus infects the faucial tonsils. By some it is held that the cryptal type of infection is primary (in the sense of exogenous) and the follicular type a secondary, blood-borne infection. The cryptal type usually accounts for up to 90 per cent of the cases of infection and is generally unilateral. Others hold that the tonsils are infected by the blood stream irrespective of the type of infection. But, in open cases of tuberculosis of the lungs, Long and his associates found that the tonsillar infection was frequently bilateral and apparently originated in the crypts. There was nothing to support the haematogenic mode of infection. In 19,000 tonsillectomies done at the Henry Ford Hospital, 35 cases of active tonsillar tuberculosis were found on microscopic examination. Twenty-seven of these cases were unilateral and 8 bilateral. Of the unilateral cases only 20 could be completely classified. Fifteen of these were considered primary and 5 postprimary, that is, occurring with pulmonary tuberculosis. All were diagnosed as cryptal infection. In the bilateral group 6 were considered to be of cryptal origin, either primary or post-primary, and 2 follicular in origin. It is highly probable that most tonsillar infections in "open" pulmonary tuberculosis are sputogenic. A few cases of haematogenic infection will occur, however. When the pulmonary lesion is "closed" and the pathological picture in the tonsil is that of a cryptal infection, the dilemma is resolved by postulating a post-primary exogenous infection of the tonsil independent of the lesion in the lungs, or a reawakening of a slumbering infection incurred at a time when the pulmonary lesion was temporarily "open." Tuberculosis of the cervical nodes is generally believed to be due to bovine organisms with the tonsil as the portal of entry, although some suggest that the path of the infection is from the lungs to the cervical nodes via the intrathoracic nodes. It is possible that the mechanism takes place in reverse, so that the infection may travel from the tonsils to the cervical nodes, thence to the hilar and even to the retroperitoneal nodes. The author concludes that cryptal infections are due to the passage of the bacillus through the intact or eroded mucosa of the base of the crypt. Tubercles related to the follicles and germinal centres are haematogenous in origin. Lymphatic spread can be ignored because the tonsil had no afferent lymphatics and retrograde lymphatic spread is unlikely. (Thumb-nail case reports are included in the article).—*Tuberculosis of the Tonsils, L. J. Rather, Am. J. Path., July, 1943, 19: 725.*—*(J. S. W.)*

**Tuberculous Adenopathy.**—Seven cases of generalized tuberculous adenopathy, seen at the Groote Schuur Hospital, Cape Town, are reported. Two of the patients were natives and the rest were colored. No case was encountered in Europeans. Clinical recognition depends on considering a tuberculous aetiology for generalized glandular enlargements of any description. Characteristic matting and adherence are seldom seen. The diagnosis is established by biopsy.

Hepatomegaly, due to fatty change, is a frequent accompaniment. The hippuric acid test may show deficient liver function. Splenomegaly is seen occasionally. Pyrexia and anaemia are always present. A polymorphonuclear leucocytosis is seen frequently. A large number of rare tuberculous manifestations was encountered in this series of cases, for example, multiple cystic tuberculosis of bone, tuberculosis of muscle, subcutaneous cold abscesses, tuberculous otitis media. The cases fall into two groups: group I, in which the lesion is an organ phthisis of the lymphatic system; group II, in which the lymph node involvement is part of an acute massive generalized tuberculosis. The infection reaches the lymph nodes via the blood-stream. —*Generalized Tuberculous Adenopathy, L. Berk, Clinical Proceedings, Cape Town, February, 1943, 2: 35.*—(*G. C. L.*)

**Incidence of Tuberculosis of the Skin.**—Tuberculosis of the skin presents a curious distributional pattern; it is common in Europe and uncommon elsewhere. Recent reports from European dermatological clinics give the frequency of cutaneous tuberculosis as between 1 and 3 per cent of the total number of cases observed. At the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital, however, of approximately 150,000 new patients admitted during the past five years only 100 had tuberculous lesions of the skin. In South America cutaneous tuberculosis has about the same geographical distribution as the United States. It is rare in temperate climates and particularly rare in the tropics. In Europe tuberculosis of the skin is apparently endemic, and here climate is not a factor in its frequency for the disease is as common, or nearly so, in Spain and Italy as in Norway and Scotland. The most important manifestation of the disease in Europe is lupus vulgaris, which accounts for about two-thirds of the cases. Scrofuloderma, erythema induratum, tuberculosis verrucosa and papulonecrotic tuberculid follow in the order named. These five forms account for at least 90 per cent of the total number of cases. In New York City lupus vulgaris is also the most common form, but it occurs in only 43 per cent of the total cases, and most of the patients are adults. This is probably because many of these patients are foreign born and have the disease when they come to this country. Boeck's sarcoid, erythema induratum and rosacea-like tuberculids each account for 11 per cent of the total.—*Incidence of Tuberculosis of the Skin, E. Gahan, Arch. Dermat. & Syph., July, 1942, 46: 130.*—(*J. S. W.*)

**Papulonecrotic Tuberculid in Negro.**—Tuberculids occur more frequently in the Negro than in the white patient, and the papulonecrotic tuberculid is the most common type. In the Negro the superficial papulonecrotic tuberculid is seen more often than the nodular type, although both forms may develop concurrently in the same locality. Clinically, superficial papulonecrotic tuberculid may simulate acne vulgaris, keratosis pilaris, secondary syphilid, papular urticaria, varicella, iododerma or bromoderma. The Negro with papulonecrotic tuberculid is highly sensitive to tuberculin. A positive local reaction is practically always obtained with 0.1 cc. of a one to a million dilution and in some instances with dilutions as high as one to a quintillion. In the adult Negro papulonecrotic tuberculid is a more serious disease than in the white patient, because complicating tuberculous disease of other viscera is seen more often in the former. A clinical cure was not seen in any case even after an observation period of two to three years. However, the patients show invariably a decided general improvement in addition to a lessened tendency toward relapses and fewer cutaneous lesions in subsequent recurrences following supportive treatment.—*Superficial Papulonecrotic Tuberculid in the Negro, S. Irgang, Arch. Dermat. & Syph., May, 1943, 47: 627.*—(*J. S. W.*)

**Tuberculosis of the Greater Trochanter and Its Bursa.**—Five cases are presented of tuberculosis of the greater trochanter and the

adjacent bursa, verified by operation and histopathological examination. Unlike subacromial bursitis, trochanteric bursitis is caused by tuberculosis in a considerable proportion of cases. In some cases the disease is limited to the trochanteric bursa, the bone itself being uninvolved. The characteristic features of tuberculosis of the trochanter are a chronic destructive lesion beginning in the upper outer part of the trochanter with formation of a cold abscess and later a sinus. A discharging sinus about the hip was present in 4 patients. The sinus may appear spontaneously or persist after an operation. The bone adjacent to the area of the destruction is decalcified. Reactive bone or involucrum is not found unless there has been either an operation with disturbance of the periosteum or a secondary infection in the draining sinus. The concomitant bursitis is manifested by swelling of the soft tissues over the trochanter and amorphous calcium depositions just lateral to it. This calcification is usually in caseous material and not sequestration. In the early stages a light roentgen exposure may be necessary to demonstrate the minimal changes. The treatment of the disease is complete extirpation of all infected tissue followed postoperatively by prolonged immobilization in a plaster spica. Recurrences are frequent.—*Tuberculosis of the Greater Trochanter and Its Bursa, M. S. Donovan & M. O. Sosman, Am. J. Roentgenol., December, 1942, 48: 719.*—(*W. H. M.*)

**Pleurisy in Young Adults.**—Pleurisy is a manifestation of "serous inflammation." Its essential feature, the disturbance of capillary permeability may affect the body universally when pleural effusion develops. Absence of tubercle bacilli in the pleural fluid does not militate against the tuberculous aetiology of most cases of pleurisy. Pleural effusion may develop during formation of a primary focus. Primary infection is followed by pleurisy in 20 to 30 per cent of cases within six months. In service men late primary infection is the main source of pleural effusion. The frequency of pleurisy in disseminated tuberculosis may be estimated at 20 to 40 per cent. It is often unilateral. It is either an independent tuberculous manifestation in the pleural membrane (nodular, caseous or exudative), or a collateral (nonspecific) hypersensitive reaction to an intrapulmonary spread which may be negligible in size and extent. Evidence can be adduced for the rôle of allergic hypersensitivity in the development of pleurisy in disseminated tuberculosis. Pleurisy in disseminated tuberculosis is an extensive, acute, reversible condition; in bronchogenic tuberculosis it is due to the extension of a circumscribed focus in the lung or in the pleurae.—*Pathological Aspects of Pleurisy in Young Adults, W. Pagel, Tubercle, April, 1943, 24: 68.*—(*E. H. R.*)

**Treatment of Tuberculous Empyema.**—The object of the paper is to show (*1*) that tuberculous empyema is a serious condition which must be treated with respect and (*2*) that treatment must be prompt and vigorous; that conservation fails in most cases. These premises are justified by a study of 90 cases of uncontaminated tuberculous empyema and 84 cases of tuberculous empyema contaminated by secondary organisms. The prognosis in the second group is worse than in uncontaminated empyema. The best results are obtained by securing pleural obliteration and, if this can be safely achieved by expansion of the lung, so much the better. A short trial is permissible. If the lung still contains active disease, thoracoplasty is needed in most cases. In any event pneumothorax should be abandoned. The risk of maintaining it is not worth while for the few that may dry up and continue safely with a good pneumothorax. The following tables show the results of treatment.

| | |
|---|---|
| Tuberculous empyema..... | 90 cases |
| Progressed to secondary infection.. | 60 cases |
| Conservative treatment or drainage alone..... | 42 cases |
| Died..... | 33 cases |
| Alive..... | 9 cases |

(Of these patients 2 are awaiting thoracoplasty, 2 are hopeless, and only 5 are satisfactory)

| | |
|---|---|
| Mortality | 77 per cent |
| Thoracoplasty | 48 cases |
| Died | 7 cases |
| Alive | 41 cases |
| Mortality | 14 per cent |
| Total mortality | 44 per cent |
| | |
| Tuberculous empyema (pyogenic) | 84 cases |
| Drained only | 35 cases |
| Dead | 32 cases |
| Alive (one awaiting thoracoplasty) | 3 cases |
| Mortality | 91 per cent |
| Thoracoplasty and drainage | 49 cases |
| Dead | 14–29 per cent |
| Alive | 35–71 per cent |

The author concludes that, with respect to secondary infected empyema particularly, thoracoplasty should be begun early; that persistent fever is an added indication for the operation; that by performing thoracoplasty after drainage, the patient may carry a tube for life but, at least, he is alive.—*The Treatment of Tuberculous Empyema, R. C. Brock, Brit. J. Tuberc., January, 1943, 37: 18.*—(*E. H. R.*)

**Anaesthesia in Thoracic Surgery.**—Selection of an anaesthetic for thoracoplasties is important because the patient is debilitated by long-standing infection and there is probable damage to heart, kidneys and liver from prolonged toxaemia or tuberculous involvement. General anaesthesia is desirable. The authors advocate the use of pentothal sodium without procaine, by the following method: One and one-half grains of phenobarbital is given the night before operation. A light breakfast is served two or three hours before operation. One-eighth to one-sixth grain morphine is administered. Preoperative barbiturates are not used. On the table injection of 5 per cent pentothal sodium into the cubital vein is started, giving 2 to 4 cc., then a pause of sixty seconds or more to judge the patient's sensitivity. Usually 8 to 10 cc. is injected before operation, then 0.25 to 1 cc. per minute during the remainder of the operation. The amount of anaesthetic necessary to prevent cough is usually about the amount needed to prevent movement. Oxygen is given by nasal catheter if cyanosis appears and is required by about half the cases. The anaesthetic is discontinued five to ten minutes before the cutaneous sutures. Intranasal oxygen is given until the patient has full respiratory movements. Bronchial drainage is effected by turning the patient. One thousand cc. of 5 per cent dextrose and 500 cc. blood are also usually administered. The authors analyze the results of 123 thoracoplastic operations on 53 patients. There were no operative deaths. The average amount of anaesthetic used was 24 cc. Only one case required more than 40 cc. Some degree of cyanosis was occasionally seen during early stages of the operation, easily controlled by increasing the depth of anaesthesia. Postoperative nausea was less than that noted with inhalation anaesthetics; 5 patients had severe nausea, 45 slight and 66 none. Four patients had rather severe postoperative shock, with minor shock noted in several patients, but there seems to be less tendency to falling blood pressure, rapid pulse and shortness of breath than with other anaesthetics. There is apparently a reduced incidence of postoperative spread, only 3 cases of spread of tuberculosis occurring within two months. Atelectasis of a lobe occurred in 2 cases, but statistics show a higher incidence of atelectasis with other types of anaesthesia. During surgery, hyperventilation of the lung with excessive mobility is better avoided with pentothal sodium than with any other anaesthetic. Patients coming out of pentothal sodium anaesthesia have no hypersecretion and the character of their sputum is not changed. The absence of postoperative nausea constitutes an advantage considered very important in combating the discomfort and shock of the operation. A small breakfast given two or three hours before operation seems perfectly safe, and many patients eat solid food within two hours after the operation, with better morale the same evening.—*The Use of Pentothal Sodium Anesthesia in Thoracic Surgery, H. S. Randolph & L. R. Kober, J. A. M. A., April 10, 1943, 121: 1215.*—(*G. L. L.*)

**Cavity Drainage.**—Cavity drainage has been given intensive trial since it has been introduced by Monaldi in 1938. The observed beneficial effect is due to reareation of pericavitary atelectatic areas, the loss of cavity contents, the decrease and eventual closure of the cavity bronchus, cleaning of the cavity wall, production of healthy granulation tissue and the prevention of bronchogenic spreads during the period of treatment. The isolated cavity is best suited for treatment, but there are relative indications in which cure may not be achieved, but the patient will be improved sufficiently for definite collapse therapy. Such relative indications are very large cavities, cavities within tuberculous tissue, contralateral tuberculosis and multiple cavities. Therapy in such cases may be successfully combined with phrenic paralysis or with thoracoplasty. Complications are empyema, air embolism and haemorrhage. The latter is more apt to occur from cavities near the hilum. The criteria for successful treatment are the disappearance of the cavity as seen on X-ray films, including tomography, closure of the bronchus as demonstrated by the injection of iodized oil into the catheter, negative bacteriological findings in the sputum and in the secretion, if any, improvement in the patient's health, and normal white count and sedimentation time. Treatment should be terminated only if all these criteria have obtained for at least six months. If the catheter is removed sooner the cavity may reopen. A review of the literature shows that complete cure is achieved in from 10 to 20 per cent of patients so treated and substantial improvement occurs in another 30 per cent. The author himself has treated 24 cases. The cavity disappeared in 9, became smaller in 11 and remained unchanged in 4. Two deaths occurred. These 2 cases were hopeless and showed evidence of marked toxaemia prior to treatment. The opinion in the literature is that the procedure is valuable in the treatment of moderately large isolated cavities where it has a good chance of unqualified success. It is also a valuable adjunct in combination with other collapse methods in otherwise unfavorable cases.—*Die Kavernensaugdrainage bei Lungentuberkulose mit besonderer Berücksichtigung der Behandlungsdauer, S. Leitner, Schweiz. med. Wchnschr., April 17, 1943, 73: 475.*—(*H. M.*)

**Cavity Drainage.**—The results of cavity drainage are presented in a series of 82 cases. No appreciable reduction in size occurred in 14; definite reduction in size in 49; closure of cavity maintained at least four months in 12; closure followed by reappearance at a variable interval in 7. Thoracoplasty was subsequently performed in 21. In conclusion, the author states that the presence of tension tuberculous cavities in lung is probably more common than is generally supposed. Suggestions as to the physio-pathology of these cavities is put forward and the rôle of the draining bronchi emphasized. Most giant cavities have several draining bronchi which become intermittently obstructed by the tuberculous process or products of the disease. Continuous suction of a large cavity leads to reduction in its size if the suction over a long period is greater than the air-entry into the cavity from the bronchi. Final and permanent closure is not common and probably depends on occlusion of all the draining bronchi. Temporary closure or marked diminution in volume is obtained in a gratifying proportion of cases. Cavities which give the best results from drainage are single large tension vomicae with compressed lung tissue in their walls. The operation of cavity drainage is practically devoid of risk if preliminary precautions are taken to ensure that the pleural layers across which the tube is introduced are firmly adherent. The immediate results are beneficial to the patient; cough and sputum are reduced or abolished and the improvement in the general condition is often out of all proportion to the extent of the operation. Sinus formation along the tube track is the only complication that need be considered and in well selected cases it is a rare finding. Haemorrhage at the time of operation and during suction does occur but is not significant. The majority of cases require some additional collapse operation

(thoracoplasty) to complete or maintain the cavity closure. Without the preliminary drainage collapse could not have been undertaken in the cases dealt with and would not have achieved the same result assuming that the patient's condition would have admitted its performance.—*Closed Suction Drainage of Tuberculous Cavities, T. H. Sellors, Tubercle, November, 1942, 23: 239.*—(*E. H. R.*)

**Lobectomy for Pulmonary Tuberculosis.**—The authors review the results of lobectomy in pulmonary tuberculosis reported by others and describe their own experience with the operation. Of 80 cases recorded in the literature, no less than 30 cases came to operation with an erroneous diagnosis. A large group had been operated on after collapse therapy had failed. The authors consider lobectomy a highly selective measure for dealing with certain unilobar lesions. They believe the operation more conservative of pulmonary function than a seven-rib thoracoplasty. Of 6 cases reported in detail, 3 had orthodox indications for lobectomy, that is, instances in which other measures could not be employed. Case 1 had a "hilar" tuberculous lesion, resembling a tumor. Cases 2 and 3 had unilobar tuberculosis, with involvement of the bronchi, a complication which precludes effective collapse treatment. The remaining 3 cases had lobectomy in preference to conventional thoracoplasty which might have been utilized. Healing *per primam* resulted in all instances. From the appearance of the films before and after operation as well as the specimens removed there is no doubt that the contribution will lead the way to attempts by others along the same lines. A detailed study was made of the pathological material. It was noted that collapse measures favor the conversion of an open cavity into a closed one. This method of healing is not necessarily a permanent and safe one of controlling the disease. The walled-off focus, although firm in consistence, invariably contains caseous material. A more reliable, but less frequent type of cavity healing is the concentric shrinking of the cavity. According to the authors, a more selective and immediate method of eradicating certain lesions in irreparably damaged lung is resection. It combines conservation of lung function, with immediate conversion of the sputum and a shortening of the span of treatment. The paper includes considerable technical information with respect to the importance of preoperative bronchoscopy, the type of anaesthesia, the site of incision, the technique of lung resection with special emphasis on meticulous haemostasis and postoperative care.—*Lobectomy for Pulmonary Tuberculosis, E. D. Churchill & R. Klopstock, Ann. Surg., May, 1943, 117: 641.*—(*E. H. R.*)

**Bovine Tuberculosis.**—Tuberculosis of cattle is found all over the earth. The cows of Quebec were infected by animals imported from Scotland, Jersey and Guernsey. Lesions can occur in all organs. Most frequent localization is in the respiratory system. Pulmonary tuberculosis develops insidiously. Symptoms are dry cough, loss of weight, anaemia, fever, cachexia. The sputum is usually swallowed. Tuberculosis of the pleura is difficult to diagnose. Tuberculous pericarditis may cause stasis in the jugular veins. Tuberculosis of the digestive tract is relatively rare and is usually accompanied by tuberculous peritonitis. Symptoms are meteorism, constipation and diarrhoea alternating. Tuberculosis of lymph nodes is always secondary to organ tuberculosis; in most cases the lymph nodes are more involved than the respective organ. Tuberculosis of the udder is found in 50 per cent of tuberculous cows. The clinical diagnosis is of no importance since tuberculin testing is done generally. Intracutaneous, subcutaneous and conjunctival tuberculin tests are employed. The incidence of cattle tuberculosis has decreased very much in the past twenty years. In Canada, the meat from all animals with positive tuberculin reaction is inspected and if tuberculous lesions are found it is confiscated.—*Tuberculose bovine, J.-M. Veilleux, Laval méd., May, 1943, 8: 380.*—(*G. C. L.*)

**Culture of Tubercle Bacilli.**—A study is presented of the successful cultivation of the tubercle bacillus on microscopic slides by the Pryce method. In essence, the method consists of spreading the tuberculous material on a slide, treating the slide with acid to destroy any contaminants, and after washing the slide with sterile water to remove the acid, culturing the organism in a suitable fluid medium. The method, as described in the text, is simple and inexpensive.—*Slide Culture Method for Tubercle Bacilli, K. S. Rosenberg, Lancet, May 15, 1943, 1: 615.*—(*J. B.*)

**Detection of Tubercle Bacilli.**—This is a general discussion on the finding of tubercle bacilli to enable the reader to keep abreast of the recent changes in laboratory procedures. A brief survey of the variable factors pertaining to the tubercle parasite and the influence of the host on the parasite is also presented. It is pointed out that as the tubercle bacillus is quite variable in shape and staining qualities it is sometimes difficult to find with certainty. Furthermore, many sources of error, possibilities of mistaken identity and artifacts must always be kept in mind in making an examination. Although different types of work and sources of material require different methods, a progression of steps is listed that is intended to serve most purposes. It begins with the various direct smear methods which are the easiest to perform, and then takes in order the concentration method, animal inoculation, and culture method, each one more refined than the preceding. Finally, the stomach lavage examination is given as the last word in diagnostic procedures. The most efficient technical procedures are mentioned as well as many suggestions regarding staining methods, serviceable apparatus and types of media, with a final and composite objective of modernizing the finding of tubercle bacilli.—*The Underlying Principles and Minimum Standards of the Laboratory Examination for Tubercle Bacilli, H. C. Sweany, Am. J. Clin. Path., September, 1942, 12: 458.*—(*J. S. W.*)

**Mycobacterium in Chorioallantoic Membrane.**—The inoculation of the chorioallantoic membrane of the developing chick has proved of great value with such disease incitants as viruses, Rickettsiae, bacteria, the spirochetes and fungi. The infected membrane lends itself easily, and within a short time, to a careful study of the histopathogenesis of the disease process. The published reports dealing with the inoculation of the chorioallantois with mycobacteria are few in number. The experimental work reported in this paper has to do with the inoculation of several hundred eggs with the following mycobacterium strains, namely, human, bovine and avian tubercle bacilli, and fish and snake acid-fasts, also the organism of rat leprosy. Besides offering an opportunity to study the disease process initiated by these incitants, a process requiring only a short time to develop, it was hoped that the method might also offer a rapid and simple procedure for determining virulence. In addition it was thought that it might be possible to differentiate the various strains of mycobacterium by the type of reaction observed. The technique of Goodpasture and Buddingh was followed. Eggs were incubated twelve days and then inoculated. Following this, after a further incubation in a bacteriological incubator for from five to six days, the inoculated membranes were removed, sectioned and stained. The results are reported in some detail. The type of reaction produced by the various strains of bacilli could be differentiated and their virulence determined without difficulty. The rapid formation of tubercles with virulent strains definitely distinguishes these organisms from the nonvirulent or less virulent strains where tubercles are either of slow development and few or lacking. The results of inoculation of fish and snake tubercle bacilli further emphasize the value of the chorioallantois, for in them we have organisms occurring in cold-blooded animals which are able to produce definite lesions in a warm-blooded test subject. The organism of rat leprosy produces in the egg a lesion and response so characteristic of the spontaneous

lesion as to encourage further investigation both with rat and human leprosy. One of the chief problems of investigative work is the element of time. With the egg membrane this is cut down to an almost insignificant factor. (With 4 plates.)—*The Chorioallantoic Membrane of Chick Embryos and Its Response to Inoculation with some Mycobacteria, M. Moore, Am. J. Path., September, 1942, 18: 827.*—(*J. S. W.*)

**Vole Acid-fast Bacillus Vaccination.**—It has been found that the vole, a small rodent inhabiting the British Isles, develops a disease with caseous areas in subcutaneous tissues, lymph nodes and lungs. After injection of the caseous material into healthy voles, Wells cultured an acid-fast bacillus similar in growth and morphology to the tubercle bacillus. Later he found that the vole was relatively susceptible to infection by the bovine and relatively unsusceptible to infection by the human type. Wells and Brooke found also that vaccination of guinea pigs with the living acid-fast vole bacillus gave protection against infection with the tubercle bacillus. The present authors are experimenting with a culture of the vole bacillus obtained from Wells and Griffith and report results of vaccination on guinea pigs using stock cultures of the vole bacillus grown on a modified Loewenstein's medium, the exact method being given in this paper. The first group of animals received living bacilli, the second killed vaccine, and the third was a control. Vaccinated animals received four weekly doses of 0.5 mg. and later animals of each group were inoculated with human tubercle bacilli. The control group all showed tuberculous involvement on later examination, while all the vaccinated animals showed less tuberculous involvement than the controls. A fourth group infected eighteen weeks after vaccination had only one animal in twelve showing any tuberculous involvement. The authors believe that the killed vaccine was therefore almost as effective in producing resistance in guinea pigs as was the living vaccine.—*Vole Acid-fast Bacillus Vaccination in Experimental Tuberculosis, D. Irwin & D. C. O'Connell, Canad. M. A. J., June, 1943, 48: 486.*—(*W. G. C. M.*)

**Blood Sedimentation in Tuberculosis.**—In earlier publications the author described his technique and terminology in arriving at the sedimentin index of blood. It was considered an improvement on the Westergren and Cutler methods of measuring blood sedimentation. The present report consists of 6 cases of pulmonary tuberculosis demonstrating the value of serial sedimentin indices in reflecting the clinical course of the disease. In uncomplicated cases these serial changes indicate not only the direction of the patient's progress, but also the severity of the disease and the rate of progress from sickness to health. The implications of this thesis are far-reaching and simply enumerated.—*Serial Sedimentin Indices, G. Day, Lancet, July 24, 1943, 2: 99.*—(*J. B.*)

**Tuberculin Test in Young Adults.**—Contrary to common belief among physicians, tuberculin testing is very useful in young adults since nowadays in various localities about 50 per cent of young people show no reaction to the test. It is therefore advisable for physicians to tuberculin-test young adults whenever tuberculosis is to be ruled out in diagnosis. There is occasional variation in the reliability of the test, even when PPD is used, however there is enough uniformity to establish the test's usefulness. A comparison of results obtained with the Mantoux and Vollmer patch test shows a 5 to 10 per cent error using the latter, however it has a definite usefulness. A group of 486 medical and dental students at McGill University were tested with the Mantoux and patch tests simultaneously on each arm, using 0.1 mg. of a standard OT. After forty-eight hours the patch was removed and forty-eight hours later both tests were read. If both were negative 1.0 mg. of OT was used in a second Mantoux test. Of the entire group 45.9

per cent reacted to tuberculin, and there was agreement between the two types of test in 94.0 per cent. Of the 306 students negative to the patch test, 14.1 per cent reacted to OT (0.1 mg. or 1.0 mg.). Of the 293 negative to 0.1 mg. OT, 10.2 per cent reacted to 1.0 mg. OT or to the patch test. The author, as a result of this experience, frequently uses the patch test alone which, if negative, is followed by 1.0 mg. of OT. In the few cases with severe reactions as a result, reëxamination of the patch test has shown a slight reaction which may not appear until after ninety-six hours. He believes the test to be about as sensitive as 0.1 mg. OT intracutaneously, and in mass surveys, if one will accept an error of 5 to 10 per cent, it may be used. In clinical diagnosis the error is too great so that a second test using 1.0 mg. OT should be given if the first is negative. Although the use of OT and PPD is the most reliable, nevertheless the patch test is very useful because of its keeping qualities and availability.—*Tuberculin Testing of Young Adults with Particular Reference to the Vollmer Patch Test, F. G. Pedley, Canad. M. A. J., January, 1943, 48: 52.*—(*W. G. C. M.*)

**Tuberculous Activity and the Tuberculin Test.**—Attempts to decide from the tuberculin sensitivity the presence or absence of active tuberculous disease have proved unsuccessful. The observation has been made, however, that patients with active tuberculosis may show a general and a focal reaction in addition to the local reaction, whereas patients with healed tuberculosis never exhibited this phenomenon. These observations have been made the object of a detailed quantitative study. Fifty-nine patients were subjected to 490 tuberculin tests during the course of their sanatorium stay. The highest dilution of tuberculin giving a positive test was determined, starting with a dilution of $10^{-8}$. The test dose was then increased ten times, and occasionally one hundred times and accurate temperature measurements were taken. If the temperature remained normal, the test was judged negative and the tuberculous process inactive. If the temperature rose by $\frac{1}{10}$ of a degree or more, the test indicated an active tuberculous process. Patients who were admitted with a positive test were retested at intervals and all showed a negative test upon discharge. Forty patients who were admitted as diagnostic problems or because of suspected tuberculosis were also submitted to the test. The test was accurate, that is, negative, in 36 of these.—*Kann aus einer positiven Mantoux-Tuberkulinreaktion ein Entscheid gefällt werden über das Vorliegen einer aktiven oder inaktiven Tuberkulose? H. Egli, Schweiz. med. Wchnschr., April 3, 1943, 73: 420.*—(*H. M.*)

**Allergy and Immunity in Tuberculosis.**—The first part of this paper concerns the relation of general to local allergy, while the second part deals with the relation of allergic phenomena to immunity. In the first part an attempt was made to determine whether the abolition of skin sensitivity means the abolition of allergy in general. Hence the skin reaction was correlated with another manifestation of allergy, the general thermal reaction. Within the limits of the experiments done, the skin reaction proved a more accurate index of the allergic status of the guinea pig than the general thermal response (rectal temperature). For instance, of 10 BCG vaccinated guinea pigs, desensitized with tuberculin to a point where all were anergic from a systemic standpoint as evaluated by the temperature change, 7 were still sensitive on local testing. In the second part of the paper the effect of depression of allergy on immunity is studied. Thirteen male guinea pigs were vaccinated with 1.0 mg. BCG and subsequently desensitized to 0.1 mg. of tuberculin (Seitz filtrate) from both general and local allergic standpoints. They were compared immunologically with the same number of similarly vaccinated animals which were allowed to retain general and local allergy to the same dose of tuberculin. Both groups, together with 10 normal non-

vaccinated controls, were infected with 0.000,1 mg. of virulent human tubercle bacilli and the resistance was studied by anatomical examinations after twelve weeks of infection. The desensitized vaccinated group showed no corresponding decrease in immunity on comparison with the allergic vaccinated animals. The controls developed massive, generalized tuberculosis.—*The Relation of Allergy to Immunity in Experimental Tuberculosis, E. F. Geever, Am. J. Clin. Path., December, 1942, 12: 606.*—(*J. S. W.*)

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